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THE NATURAL RESOURCES OF THE WORLD BELONG TO MANKIND

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THE NATURAL RESOURCES OF THE WORLD BELONG TO MANKIND

by

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The natural resources of our surroundings serve us as a source from whence our society draws everything necessary for the satisfaction of its constantly rising requirements in energy, food products, various materials etc.,

Some of them, for instance ore deposits, were formed as a result of earth development from substances the earth is composed of. The origin of some other deposits is closely connected with the energy of the sun. As far back as a million years ago the energy of the sun favoured the growth of mighty trees which resulted in coal formation. Water rotation of the whole planet is also put in motion by solar energy.

Minerals cannot be restored. Their reserves are not eternal on our planet, though they are still very great. The time will come when their reserves are exhausted. It is obvious that chemical elements of minerals will remain on the earth even after their use but in other chemical compounds.

A number of resources, for instance river waters, fertile matters in soil, woods, elements of animate nature and some others, however, can be restored as a result of physical, chemical and biological processes existing in nature.

These natural processes are closely interconnected thus forming a system which is always in a state of mobile equilibrium. The presence of woods or the state of soil in river basins, essentially affect the velocity of rainwaters when flowing from the place of their precipitation to riverbeds. Besides, it also results in uniform flow of river runoff. Pollenisation of many plants, including agricultural crops, mainly depends on some types of insects, that carry pollens from one flower to another etc.

The progress of society results in the wide employment of the greater part of minerals. Nowadays, almost all the minerals found in the earth-crust rocks are considered to be useful while some 20 - 30 years ago many of them were not employed in industry. For example, uranium was regarded as an auxiliary product of radium output. At present the active role of mankind in transforming nature has become more obvious. The tempos of restored minerals employment in many cases have already exceeded the rate of their natural restoration.

What will be the result? How much longer will man have an influence on Nature? It is known that some economists and sociologists, with Malthus consider, that the infinite growth of population with limited amount of mineral resources will inevitably result in the lack of resources and food products.

Having equipped themselves with this theory they would pin almost all the misfortunes and the unsettled state of society onto the above statement. Some of those philosophers find the only way out in reducing the birth rate, while others do their best to show "the positive role" of wars, epidemics and some other misfortunes, annihilating millions of people.

However, the number of population and its requirements are rapidly increased with the reserves of mineral resources being rather limited.

What are the perspectives now?

It happens that the development of progress does not decrease, but on the contrary, it increases (and this is of utmost importance) the possibility of meeting the demands of humanity though mineral resources as a hole are in fact limited. For instance, let us take production of energy. The reserves of combustible minerals and water power on our planet are limited and though geological prospecting is still discovering new deposits of coal, oil, gas etc., their amount is also limited and some time or other they will surely come to an end. However, there should be mentioned that new deposits are discovered more quickly than the old ones are exhausted. For instance, atomic energy is widely used nowadays.

That is why general reserves of raw materials good for generation of electricity during the last decades was not only decreased but even increased by many times, taken as a whole as well as per capita of world population. In 1850, for example, total amount of non-restored potential electric-energy would be estimated by the value of nearly 104 kwh per capita taking into account all the known coal deposits of the past and the present. However, these figures reached 2,105 kwh in 1950 mainly at the expense of oil, gas, atomic energy and coal reserves.

It is known that raw materials good for synthesis of atomic nuclears, contain a thousand times greater energy as compared with the energy of oil, coal, gas and so on, and so forth. The reserves of energy resources will increase to a considerable value as soon as the question of thermo-nuclear reaction is properly studied.

The vast possibilities of sunbeams falling on the earth are not yet utilized at all.

Their employment will become possible with the improvement of modern thermo-couples and photoelectric cells.

However, there can be no doubt that the day will come when mankind will be equipped with the most perfect instruments which will facilitate the fulfilment of this task. Sea tides and currents as well as the incandescent bowels of the earth are also very rich in energy.

The same can be said about nourishment. It has been proved that a Malthusian theory of the so-called "diminishing fertility" is not valid. Crop capacity is rapidly increasing due to employment of new methods of cultivation, artificial fertilizers etc., The fact speaks for itself: there is enough and to spare for keeping a population dozens of times greater than the existing population of the world. However, agriculture is not the only way to provide mankind with food. A great amount of food reserves can be found in the oceans. Modern chemistry is dealing with the synthesis of food substances of full value on the basis of quite different methods of resources (for example oil, coal or wood).

The same can be said about resources which are necessary for getting constructional or industry materials and for satisfaction of any demands of mankind.

It is still a long way off until the most "scarce" natural resources, like oil for instance, come to an end. It should be then taken into account that mankind has begun the flights outside the earth's atmosphere. In some ten years or even earlier all the natural resources of the neighbouring planets of the solar system will for sure belong to mankind. Thus the possibilities for humanity increase more rapidly as compared with the difficulties mankind would confront to, due to the limited area of our planet and its limited resources.

Thus the improvement of technique, the development of new commercial minerals by man and skillful utilization of those minerals provide normal development of the human society. Besides, modern progress of industry

makes it possible not only to resurrect exhausted minerals but also to develop them essentially and to improve the quality of the restored natural resources. Does it mean that we can use the mineral resources as we choose?

Can we meddle with the natural process at our own will? Of course not!

The spontaneous character of interaction between Man and Nature with the rapidly increasing influence upon the latter represents a certain danger.

By burning fuel we make the composition of the atmosphere worse. About six milliard tons of CO_2 are mixed with atmosphere daily. During the last 100 years more than 400 milliard tons of CO_2 were artificially exhausted into the atmosphere, so that the concentration of carbon dioxide CO_2 in the air we breath has increased approximately by 10%.

If we burn all the known reserves of oil and coal, the concentration of carbon dioxide CO_2 will be ten times greater in the atmosphere, and thus, the thermal balance of the earth would be considerably disturbed.

Sewage pollution of rivers and lakes take place due to industrial waste.

According to approximate calculations the total amount of sewage water drained at present to watercourses and all kinds of reservoirs totals to 600 - 700 km^3 per year.

About one third of this amount of water is so dirty that it can not be used for the second time without any treatment. For natural self-treatment of sewage water there should be used a certain amount of clean water exceeding the amount of polluted water by 12 - 15 times. In other words, we need about 4,000 km^3 clean water per year that equals to 12% of the world's total runoff.

It is to be supposed that by 1980 the amount of polluted sewage water will increase by 2.5 - 3 times. It means that under the present condition of water utilization almost half of the world's runoff, would go only on self treatment of sewage water.

It is obvious that at present thorough treatment of noxious gasses, sewage water and industrial waste has become a problem of vital importance.

In many countries of the world the development of erosion processes, of soils, droughts, dry winds, frequency and intensity of disastrous floods have increased to enormous proportions. The total area of land subject to erosion is determined to be 600 - 700 mln hectares all over the world. This constitutes almost half of total cultivated areas of the world. A certain part of this vast area can not be cultivated any longer.

The basic reason for the disastrous development of erosion processes, droughts and some other natural calamaties mentioned above, is the radical disturbance of natural conditions for the water runoff, as a result of predatory cutting of woods, unsystematic ploughing up and impractical use of water. We have listed several examples of difficulties that will confront mankind in the near future. This will be especially serious if the state of mineral resources is not given proper consideration.

At present, the problem of soil erosion and some other spontaneous calamities in many countries has been raised to a national level. However, protective measures against soil erosion, dry winds, floods etc., are successfully carried out only in a few regions and the damage caused by soil erosion to the land resources of the whole world can hardly be compensated.

Much attention should be deserved to the question of utilization of some mineral resources, which are for the general use of many countries. For example sea fishery and hunting sea animals.

It is known that approximately 90% of the world catch falls on open seas out of territorial waters of this or that country. However, regions of fish concentrations providing non-deficient fishery, are limited and therefore fishing is constantly being developed in the above said regions. As a result of this the reserves of food-fish and first of all, ground fishes have been noted as being systematically reduced in some regions, for example in the North Sea.

Trawlers of France, Germany, England and some other countries are ploughing the seas near African and Asian shores in search of fish.

Great reserves for fishery are still available in some tropical seas and vast spaces of world oceans. However it is absolutely necessary to establish a strict and scientifically well organized control for fishing in the system of international fisheries, not to undermine the biological ground of fishery in future. This international control will also assist in the distribution of the vast possibilities of seas and oceans in the interests of all mankind.

Unfortunately, actually it does not seem to be so.

Whale-fishing can serve as a regrettable example. Whale reserves in the oceans of the world is a good source of albumens and blubbers. Nevertheless whale-fishing is carried out very unreasonably, and intensively so that it brings to steady decrease of main whale herds. Even the remote regions of the Antarctic Continent which are still famous for whale-fishing (about 85% of total world whale-fishing falls on those regions) have already out-lasted the days of their astounding growth. Nowadays whale-fishing in the aforesaid regions is being considerably decreased.

A special international convention on whale fishing turned to be powerless and could not prevent the critical situation due to increased quotas and brutal competition between England, Norway, Holland and Japan.

The necessity of strict international approach to the use of all the natural resources can clearly be shown if we cite as examples many other representatives of fauna.

Many fish (salmon etc.,) birds of passage, fin-footed mammals (seals, walruses, sea bears etc.,) while performing regular migrations, spend the reproduction season within a certain country. However, they are fattened and they hibernate in some other countries which are sometimes rather far from their native regions. That is why all the questions concerning the reproduction and slaughter of such animals should be coordinated between countries by means of international agreements drawn up on the basis of scientific data.

Yet there is nothing like this in the world. Many types of food-fish game-birds and other animals like pacific salmon, kamchatka crabs etc., are being ruthlessly annihilated.

Additional measurements on protection of Nature and the rational employment of natural resources are especially necessary for underdeveloped countries of Africa, Asia and South-America, because the natural resources of these countries had continuously been exploited by foreigners in the most unsystematic and brutal way. Thus the damage caused as a result of unsystematic and brutal use of mineral resources output has proved out to be rather considerable.

Natural resources are distributed unevenly on the surface of our planet and consequently, on the territories of different countries. Even distribution of mineral resources is of utmost importance. Minerals prospecting are also

carried out unevenly. The reserves of mineral resources on the territories of advanced countries have mainly been discovered, while the territories of under-developed countries are not yet properly studied. Moreover, in some countries there were no search for minerals at all.

The presence of the reserves of many important mineral resources determines the development of this or that country. There can be no doubt that coal and ore deposits greatly assisted in the economic development of Great Britain, Germany and some other European countries. Great amount of natural resources scattered all over the territory of the USSR fully answer the requirements of the far-reaching plans of development of the USSR. The great amount of natural resources on the territory of the USA had an essential influence upon the rapid growth of industry in the country during the last century.

As far as the reserves of mineral resources, found on the territories of backward countries during the last century, are concerned, they played a double role and in general, it seems to us that they greatly assisted in colonization and economical enslavement of the above-said countries but not in their flourishing. Some specific conditions - the presence of cheap and abundant manpower, absence of both own industry and technological progress greatly assisted in the fact that foreign monopolies had conquered those backward countries and appropriated all the natural resources of the said countries.

The natural resources of many countries of Asia, Africa and Latin America have become objects of brutal colonial wars between the capitalist countries as well as objects of intrigues and profiteering.

Most of us remember the events in international relations as a result of the struggle ranged around the Middle East oil which took place between the powerful American and European monopolies. Nowadays we witness the struggle raged around the employment of richest deposits of minerals and especially of uranium on the territory of the Congo. We also remember the recent usurpation of rich deposits of mineral resources in Chile carried out by a foregoing private monopoly etc.,

No wonder that countries which recently got their political sovereignty are now looking forward to employment of all the natural resources of those countries as well as incomes of the said resources at their own pleasure for the sake of raising the living standard of population. We consider that this just striving for political and economic independency will meet with warm approval among the scientific community of the whole world.

Backwardness, starvation and poverty should be done away with in all the countries of the world and no later than during the coming decade - this is the demand of mankind.

Funds released due to universal and complete disarmament, effective employment of both rich natural resources and a great number of able and industrious population available in under-developed countries will constitute the means which are necessary for the successful solving of the problem. Thus, new and great productive forces will be drawn into the activities of human society.

Peaceful overtures of the Soviet Government put forward in the declaration project of the General Assembly of the United Nations Organization on switching over all the means and resources, released as a result of disarmament to peaceful needs, give a real ground for combined effects in this direction.

In connection with this, the mineral and water resources of many countries of Africa, Asia and South America seem to be of greater importance.

We know many wonderful examples of development and realization of far-reaching plans concerning the complex utilization of water resources

of many large rivers. The mighty cascades of hydroelectric stations on the Volga, Dnieper and Angara rivers have already been constructed in the USSR; the High Aswan Dam is being constructed on the Nile river in the United Arab Republic; some hydropower stations on the rivers of Tennessee on Colorado and Niagara are nowadays under planning in the USA. There are many other hydroelectric stations constructed or designed all over the world. A question arises in connection with this about the perspectives of construction of large hydrotechnical constructions as well as construction of industrial complexes on the territories of the underdeveloped countries in Africa, Asia and Latin America that would serve as starting points for strengthening and development of their national economy.

It should be taken into account that the potential water resources of African and Latin American countries amount to 2.6 - 4kw per capita which is two or three times greater than the world average water resources (1.2 kw per capita). The reserves of mineral resources are also considerable in those countries.

It is known that projects for the mastering of the great rivers Ganges, Brahmapulrah, Irawadee, Mekong and Indus as well as natural resources of dense populated areas of the South-east Asia have already been developed.

These areas are suitable for construction of mighty hydroelectric power stations, cultivation of many million hectares of fertile soils as well as for the construction of industrial enterprises.

The Mineral resources of the Middle East give an opportunity to develop chemical industry, producing artificial fertilizers, artificial fibre, medicines etc., It is calculated that several powerful hydropower stations of world significance can be constructed in Africa alone.
The realization of such projects would bring radical economic and cultural changes in the existing backward countries.

It is clear however that without a wide scientific, technical and economical cooperation of peoples it would be impossible to provide rapid and effective employment of those rich mineral resources.

Once upon a time, primitive man enjoyed Nature as it then was.

He took everything he could from nature but there were few people at that time and, therefore, they did not have much effect on nature.

Since agriculture appeared, people could distinguish smaller parts of nature, for example, arable lands, gardens, meadows, herds of animals etc., People devoted much effort and care to them and derived benefits from them.

However, the rest of Nature is employed unsystematically, according to an old hunting principle - at their own sweet will. Such a "spontaneous" cooperation of man and nature leads to exhaustion of mineral resources and should not go on any longer.

The humanity in its power, has approached a new stage of cooperation with nature.

The economy of people should be reasonable all over our planet.

Many scientists of the world as well as various strata of society in various countries share the propositions stated in this paper.

The thing is probably not so much in further propaganda of the ideas stated in this paper, as in the fact that they would serve as a basis for actual international measures undertaken by such organisations as United Nations Organization (UNO), United Nations Educational, Scientific and Cultural Organization (UNESCO), International Agricultural Federation (IAF) and many other Scientific Alliances and Committees.

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